JOURNAL OF APPLIED BEHAVIOR ANALYSIS 2003, **36,** 141–146 NUMBER 1 (SPRING 2003)

BRIDGING THE DISCONNECTION BETWEEN APPLIED RESEARCH AND PRACTICE: A REVIEW OF TREATMENTS THAT WORK: EMPIRICALLY SUPPORTED STRATEGIES FOR MANAGING CHILD BEHAVIOR PROBLEMS *BY ED CHRISTOPHERSEN AND SUSAN MORTWEET*

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In recent years, behavior analysts have lamented a disconnection between applied research and practice. In their book, *Treatments That Work: Empirically Supported Strategies for Managing Child Behavior Problems,* Christophersen and Mortweet (2001) have attempted to bridge this gap for medical and behavioral health providers alike by describing empirically supported treatments, derived from behavior therapy and its application, that are specifically designed for challenging problems commonly seen in typical children. The book is clearly intended for both primary care physicians and behavior therapists, and in this article, we review the extent to which the book meets the needs of each. Discussion centers on the extent to which the book can meet the need for both technical precision and conceptual breadth in training of behavior therapists. We conclude that, in making explicit the connections between research and practice, the authors have provided a useful clinical teaching tool and have also raised important questions about how best to establish collaborative relationships with physicians and promote the use of behavioral technology in primary care.

DESCRIPTORS: primary care, behavioral health, empirically supported treatments, dissemination, marketing

Over the past 20 years, behavior analysts have become increasingly interested in the delivery of behavioral health services in primary care settings, especially with pediatricians (Allen, Barone, & Kuhn, 1993; Arndorfer, Allen, & Aljazireh, 1999). A majority of patients with behavioral health problems present them in primary care settings rather than in clinics that specialize in psychological services (Costello, 1986), and physicians are expected to address and manage these needs in the context of a short office visit (Arndorfer et al., 1999). In fact, a number of authors have proposed models of collaborative care between psychologists and physicians that are touted as having the advantage of increased continuity of care (deGruy, 1997; Drotar, 1995; Schroeder & Gordon, 1991). Behavior analysts are in a particularly strong position in such a partnership, because a majority of the empirically supported treatments for managing behavioral health problems presenting in primary care are derived from behavior theory and its application (Kazdin & Weisz, 1998).

Yet, behavior analysts have been in similar positions before, and still some lament a disconnection between applied research and practice that has been described as being at least as great as that between basic and applied research (Critchfield, 2002; Neef, 1995). Happily, at least one behavior analyst

Preparation of this review was supported in part by Grant MCJ 319152 from the Maternal and Child Health Bureau, Health Resources Services Administration and by Grant 90 DD 032402 of the Administration on Developmental Disabilities.

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has a bridge underway. For much of the past 20 years, Ed Christophersen has pioneered the application and dissemination of behavior analysis in pediatrics. Christophersen has been able to bridge the often-worrisome disconnection between applied research and practice that has received considerable attention in the *Journal of Applied Behavior Analysis* (*JABA*), in part by using strategies described in this journal (e.g., Allen et al., 1993; Neef, 1995; Schwartz & Baer, 1991). He has published in major pediatric journals, including *Pediatrics, Pediatric Clinics of North America, Journal of Developmental and Behavioral Pediatrics,* and *Pediatric Annals,* demonstrating to pediatricians that behavior analysts are empirically based. He has published on topics ranging from toilet training and injury prevention to medical adherence and basic management of everyday problems, demonstrating to pediatricians that behavior analysts are interested in high-incidence, low-intensity problems that are relevant in primary care. Finally, he has provided guidance to pediatricians in choosing, adapting, applying, and evaluating interventions, demonstrating to pediatricians that behavior analysts care about conditions that affect the social validity of their interventions. His book, *Treatments That Work: Empirically Supported Strategies for Managing Child Behavior Problems* (2001), coauthored with Susan Mortweet, is one of his most recent efforts to continue packaging and marketing behavioral technology to primary care providers.

Christophersen and Mortweet make it clear from the outset that their book is not intended for primary care providers alone, but they are explicit in targeting this audience. First, they hypothesize in the introduction that a book such as *Treatments That Work* may enhance the collaborative relationship between behavior therapists and primary care physicians by providing a resource to help physicians "make decisions about referring children on the basis of whether or not empirically supported treatments exist" (p. 10). This hypothesis has intuitive appeal because the medical community has expressed a preference for evidence-based medicine in their own practices. Moreover, there is a good fit between the needs of primary care physicians and the empirically supported behavioral health treatments that have been derived. Five of the eight chapters included in the book (i.e., those on disruptive behavior and attention deficit hyperactivity disorder, encopresis, pain, enuresis, and sleep disorders) correspond closely with pediatricians' reports of common and challenging problems encountered in everyday primary care practice (Arndorfer et al., 1999). It is not hard to imagine that chapters on habit disorders, anxiety, and medical nonadherence could also be relevant and valuable to pediatricians.

Second, Christophersen and Mortweet wrote the book to provide primary care physicians with a reference that would help them to stay current with the literature on behavioral health care. To this end, the book also offers overviews of diagnostic criteria, causes and correlates, and assessment procedures, as well as reviews of both medical and behavioral interventions for each type of problem. Physician-friendly elements include (a) excellent "Differential Diagnosis Criteria" tables in a checklist format (based on the DSM-IV) that could serve as a handy clinical tool, (b) reviews of medication interventions preceding reviews of behavioral interventions, a format likely to be valued by individuals trained in a disease-centered biomedical model, and (c) concise summaries at the end of the chapters that provide suggestions about choosing among treatment options.

In spite of these strengths, the book's greatest contribution may be heuristic; in fact, there has been little research on what fuels a referral from primary care to a be-

havioral health professional. Opinions are legion, but there does not yet exist an empirically derived technology of establishing and maintaining collaborative relationships. Nor is there any support for the notion that primary care physicians would read or "keep handy" a reference book regarding behavioral health assessment and treatment. In addition, having and promoting empirically derived technology alone is not enough. Getting physicians to use behavioral technology is likely to be at least as difficult as getting parents to implement effective technology (Allen & Warzak, 2000). If *Treatments That Work* inspires research designed to answer these questions, it has served a valuable function.

The amount of information provided in *Treatments That Work* also begs the question of "How much is too much?" for primary care physicians. The book includes relatively brief reviews (compared to what psychologists are used to) of diagnosis and assessment procedures, but one wonders how much physicians want to know about interview procedures, observational techniques, or self-report measures. *Treatments That Work* may also provide too much information about treatment. For example, several of the chapters (those on habits, enuresis, encopresis, and disruptive behaviors) provide enough information in the form of protocols and handouts to suggest that the reader could implement a given intervention based on the protocol alone. Yet, the extent to which physicians are interested in, or capable of, carrying out behavioral interventions in the context of primary care is unknown.

A final concern centers on the fact that many of the chapters in *Treatments That Work* provide discussions of *any* intervention with some supporting research, rather than limiting the book to descriptions of only those treatments that have been subjected to rigorous (Chambless & Hollon, 1998) scientific investigation. For example, the chapter on disruptive behavior disorders discusses behavioral parent training, cognitive behavioral therapy, structural family therapy, psychodynamic therapy, and parenting groups. The chapter on enuresis reviews arousal training (a procedure with limited empirical support) alongside the urine alarm (a procedure with extensive empirical support). Chapters on habit disorders, sleep disorders, enuresis, and pain offer overviews of the entire treatment literature rather than specific guidance and direction toward treatments that have undergone rigorous scientific investigation. The implicit message in these chapters is that the described interventions are all "treatments that work," although some of the treatments have undergone more rigorous scientific investigation than others. It is difficult to see how this type of broad overview would be of assistance to primary care physicians, as a resource or as a referral guide.

One reason that Christophersen and Mortweet included more detail than might be needed or desired by pediatricians may be that the authors had a larger audience in mind. Indeed, *Treatments That Work* was written to be used not only by pediatricians but also by mental health practitioners, graduate students, and predoctoral interns. Writing a book for such a wide audience is a difficult challenge because the needs of these various groups are so different. Primary care physicians, who have approximately 13 min with each patient to deal with an average of six different problems (deGruy, 1997), are unlikely to be interested in the technical precision necessary to treat some problems or the conceptual breadth necessary to understand why a given treatment might work. At the same time, physicians have little training in the recognition of psychological disorders (Badger et al., 1994), and most feel insecure in managing problem behaviors and in prescribing psychoactive drugs (deGruy, 1997). Ultimately, the kind of information pedia-

tricians need, how much they need, and in what format they need it are all empirical questions.

Behavioral health practitioners, on the other hand, need the sort of technical precision offered in some of the chapters in *Treatments That Work*. Precision (i.e., the extent to which our descriptions of our technology tell us what to do) is important because without it our science has no utility (Hayes, 1991). Chapters on habit disorders, encopresis, enuresis, and pain, in particular, provide user-friendly assessment forms and treatment protocols that could be photocopied directly and used by a clinician. Although the chapters are not, nor were they meant to be, treatment manuals or "how-to" guides, they do provide enough information to guide the clinical practice of doctoral-level students and practitioners with advanced behavioral clinical training. In addition, the book does provide two appendixes with instructions for implementing a token program and for conducting relaxation training. These chapters (and appendixes) could prove to be valuable resources in graduate-level classes or in clinics that focus on behavioral health service delivery in primary care settings. In addition, these chapters address common problems that are not typically addressed in traditional textbooks of childhood clinical pathology (e.g., Mash & Barkley, 1998) and provide precision that is not typically offered in traditional textbooks of pediatric psychology (e.g., Roberts, 1995).

In contrast, chapters on disruptive behavior disorders, anxiety disorders, medical adherence and sleep problems offer less precision and, therefore, less utility. Perhaps because these chapters address diagnostically related groups of problems (e.g., disruptive behavior disorders include attention deficit hyperactivity disorder, oppositional behavior, and conduct disorder) rather than individual problems (e.g., enuresis), there is simply less precise information about assessment and treatment for any individual problem. For example, the chapter on disruptive behavior disorders provides brief handouts and protocols for "time-in" and problem solving but nothing similar on time-out and differential attention, both of which are empirically supported treatments for disruptive behavior problems. The tendency, exposed earlier, by the authors to provide discussions of any intervention with some supporting research, rather than limiting the book to descriptions of only those treatments that have been subjected to rigorous scientific investigation, is magnified in these chapters. It appears that the authors had a difficult time deciding between breadth of coverage and precision of coverage. The result is that some chapters probably offer more information than a typical primary care physician would need or be interested in and not enough information to be immediately useful to a doctoral-level clinical practitioner.

A final caution for trainers of doctoral-level students who might use this book. The book models a diagnosis-driven rather than an assessment-driven approach to treatment selection. This type of approach encourages disconnected, diagnosis-driven theorizing rather than integrative, process-oriented, functional thinking (Forsyth, 1997). In addition, *Treatments That Work* rarely offers insight into why the technology being described works as it does. Yet, knowing how and why treatments work is important, because such knowledge provides the conceptual grounds to use a given treatment when confronted with a new problem (Hayes, 1991). Without the conceptual grounds, the source for new techniques may fall to "common sense" or to unscientific theories (Hawkins, 1997). The "why" is also important, because it allows tools and techniques to complement rather than supplant the application of basic principles derived from experimental science (Forsyth, 1997). Finally, it is also difficult to teach what is known in

an area without understanding why, because seemingly disconnected facts proliferate (Hayes, 1997).

Admittedly, in practice, it is almost impossible to write a book that offers technical precision and conceptual breadth, because writing for one almost always comes at the expense of the other. Textbooks that include interesting and advanced conceptual discussions are often introductory in their handling of applications and procedures, whereas textbooks that are technically sound often omit detailed discussions of important conceptual issues (Vollmer, 2001). We do not mean to suggest that *Treatments That Work* should have included more conceptual discussions about the how and why of the technology being described, but neither should the book be considered a substitute for textbooks that do. Doctoral-level psychologists *should* be interested in both the technical precision necessary to implement empirically derived technology and the conceptual scope necessary to talk about and describe that technology in a systematic fashion with respect to basic principles of our science.

In spite of these reservations, Christophersen and Mortweet's effort to bridge applied research and clinical practice in primary care has made a contribution to behavior analysis in general and to our practice in particular. In general, efforts to make explicit the connections between research and practice have received considerable support in the *JABA* community (e.g., Mace & Wacker, 1994), and this book should receive the same. For us, however, their effort is especially propitious given that we regularly collaborate with primary care physicians and train doctoral-level psychology students; both are target audiences of *Treatments That Work*. Foremost, the book has found a place in our teaching with both medical residents and psychology interns, precisely because some of the chapters provide something for both: simple diagnostic tables and brief overviews of the treatment literature for medical residents and straightforward treatment protocols for doctoral interns. But the book has also inspired us to begin our own research to answer the questions posed earlier regarding the critical features related to the establishment of referral and collaborative relationships with primary care physicians and the use of behavioral technology by pediatricians. This is not a small point, because the survival of our science may depend, at least in part, on the answers.

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Received June 4, 2002
Final acceptance November 7, 2002
Action Editor, Patrick C. Friman